

Appl. No. 10/050,260
Amendment and/or Response
Reply to Office action of 7 January 2004

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Amendments to the Claims:

A listing of the entire set of pending claims (including amendments to the claims, if any) is submitted herewith per 37 CFR 1.121. This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently amended) A lighting device, comprising:
a light emission surface;
a plurality of substantially point-shaped light sources; and
an optical waveguide plate into which a plurality of cavities is provided, each cavity accommodating a light source, ~~which cavities each comprise and including~~ an upper side facing closest to the light emission surface and side walls that allow coupling of light therethrough into the optical waveguide plate, said upper side being covered with a first reflecting layer, ~~while the coupling of the light into the optical waveguide plate takes place through the side walls~~
said cavities extending only partially through the optical waveguide plate toward the light emission surface, such that a portion of the light coupled from one of the cavities through the side walls can reach and be emitted from an area of the light emission surface directly above said one of the cavities.

2. (Previously presented) The lighting device of claim 1, wherein the side walls of the cavities are substantially perpendicular to the light emission surface, and the upper sides of the cavities are substantially parallel to the light emission surface.

3. (Previously presented) The lighting device of claim 1, wherein the cavities are each covered with a second reflecting layer on their lower side opposite to their upper side.

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4. (Previously presented) The lighting device of claim 1, wherein the cavities are substantially cylindrical in shape.

5. (Previously presented) The lighting device of claim 1, wherein the cavities are provided in the lower side of the optical waveguide plate.

6. (Previously presented) The lighting device of claim 1, wherein the light sources are light-emitting diodes.

7. (Previously presented) The lighting device of claim 3, wherein the second reflecting layer extends over the side faces and the lower side of the optical waveguide plate.

8. (Currently amended) ~~The lighting device of claim 7,~~ A lighting device, comprising:
a light emission surface;
a plurality of substantially point-shaped light sources; and
an optical waveguide plate into which a plurality of cavities is provided, each
cavity accommodating a light source, which cavities each comprise an upper side
facing the light emission surface and side walls, said upper side being covered with a
first reflecting layer, while the coupling of the light into the optical waveguide plate
takes place through the side walls, wherein:
the cavities are each covered with a second reflecting layer on their lower side
opposite to their upper side;
the second reflecting layer extends over the side faces and the lower side of
the optical waveguide plate; and
the second reflecting layer is at a distance from the optical waveguide plate,
which distance constitutes an air gap.

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9. (Currently amended) ~~The lighting device of claim 1,~~ A lighting device, comprising:
a light emission surface;
a plurality of substantially point-shaped light sources; and
an optical waveguide plate into which a plurality of cavities is provided, each
cavity accommodating a light source, which cavities each comprise an upper side
facing the light emission surface and side walls, said upper side being covered with a
first reflecting layer, while the coupling of the light into the optical waveguide plate
takes place through the side walls,

wherein the first reflecting layer extends further in horizontal direction with a first portion into the optical waveguide plate.

10. (Currently amended) ~~The lighting device of claim 1,~~ A lighting device,
comprising:

a light emission surface;
a plurality of substantially point-shaped light sources; and
an optical waveguide plate into which a plurality of cavities is provided, each
cavity accommodating a light source, which cavities each comprise an upper side
facing the light emission surface and side walls, said upper side being covered with a
first reflecting layer, while the coupling of the light into the optical waveguide plate
takes place through the side walls,

wherein the first reflecting layer extends further with a second portion along the side walls of the cavity.

11. (Previously presented) The lighting device of claim 1, wherein the edges of the cavities situated opposite the upper side are surrounded by another reflecting layer.

12. (Previously presented) A liquid crystal display device incorporating the lighting device of claim 1.

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13. (New) A lighting device, comprising:

a light emission surface;

an optical waveguide plate into which at least one cavity is provided, the cavity including an upper side closest to the light emission surface, a lower side opposite the upper side, and at least one side wall allowing coupling of light into the optical waveguide plate; and

at least one light source accommodated within the cavity,

the upper side being substantially covered with a first reflecting layer and the lower side being substantially covered with a second reflecting layer.

14. (New) The lighting device of claim 13, wherein the light source is a light-emitting diode.

15. (New) The lighting device of claim 13, wherein the second reflecting layer extends over lower side and side faces of the optical waveguide plate.

16. (New) The lighting device of claim 15, wherein the second reflecting layer is at a distance from the optical waveguide plate, which distance constitutes an air gap.

17. (New) The lighting device of claim 13, wherein the first reflecting layer extends beyond the cavity into the optical waveguide plate.

18. (New) The lighting device of claim 13, wherein the first reflecting layer extends along the side wall of the cavity.

19. (New) The lighting device of claim 13, wherein an edge of the cavity situated opposite the upper side is surrounded by another reflecting layer.

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20. (New) The lighting device of claim 13, wherein the side wall of the cavity is substantially perpendicular to the light emission surface, and the upper side of the cavity is substantially parallel to the light emission surface.

21. (New) A display device incorporating the lighting device of claim 13.